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REMARKS

Reconsideration of this application is respectfully requested.

Claim Rejections -35 USC § 102

The Office Action rejects claims 1-20 under 35 USC 102(e) as being anticipated by Allen Jr. et al. in United States Patent No. 6,169,735. This patent issued from an application filed April 7, 1999. The filing date of the instant application is December 7, 1998. Consequently, the cited patent was filed after the instant application and is not citable as a reference under 35 USC § 102.

If the Office Actions relies on a priority date claim from Provisional Application Number 60/083,640 filed on April 30, 1998, the Examiner has a strict duty to demonstrate that the priority document teaches the features relied on to reject the claims of the instant application. The Examiner has not met that onus. Consequently, it is respectfully requested that the rejections be withdrawn or the onus be met by reference to the actual disclosure of the provisional application.

Regardless, the Office Action fails to meet the onus of anticipation under 35 USC § 102(e).

Allen Jr. et al., in United States Patent No. 6,169,735, filed April 7, 1999, teach an asynchronous transfer mode (ATM)-based distributed virtual tandem switching system in which a network of ATM-based devices is combined to create a distributed virtual tandem switch. The system includes an ATM switching network that dynamically sets up individual switch virtual connections. The system also includes a trunk interworking function (T-IWF) device and a centralized control and signaling interworking function (CS-IWF) device. The trunk interworking function device converts end office voice trunks from TDM channels to ATM cells by employing a structured circuit emulation service. The centralized control and signaling interworking device performs call control functions and interfaces

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narrowband signaling and broadband signaling for call processing and control within the ATM switching network. Consequently, the ATM based distributed virtual tandem switching system replaces a standard tandem switch in the PSTN.

Therefore, as is abundantly evident to those skilled in the art, the ATM switching network 26 (FIG. 4) combined with the T-IWF 28 and the central control function (CS-IWF 20) constitutes a virtual tandem switching system. The virtual tandem switching system serves the sole and exclusive purpose of switching calls between end offices 20, 22 connected through one or more T-IWFs 28 to the broadband ATM switching network 26. The virtual tandem switching system has no direct connection to the PSTN and does not serve subscriber lines. Consequently, the virtual tandem switching system does not resemble or function as a hybrid central office and only supports trunk connections to the respective end offices 20, 22.

With respect to claim 1, the Office Action alleges that Allen Jr. et al. show, in FIG. 4, a hybrid central office (combination of 20 and 30) for serving a plurality of subscriber lines 19. Allen Jr. et al. neither teach nor suggest that the end office 20 can be combined with the CS-IWF 30 or that the combination could function as a hybrid central office. At column 13, lines 42-44, Allen Jr. et al. state "The CS-IWF 30 may be integrated into the switch 20, 22 or an ATM edge switch". However, there is no explanation of what integrated "means". One skilled in the art could only interpret "integrated" to mean "co-located", since Figures 4, 5 and 6 unequivocally demonstrate that the CS-IWF is logically separated from the respective end offices 20, 22 and has a separate Point Code as well as a separate ATM address. There is no teaching or suggestion of combining 20 and 30 in the way they would have to be combined in order to arrive at the hybrid central office as claimed in claim 1.

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The Office Action also alleges that the inter-working bearer traffic interface, (equated with T-IWF 28) permits the hybrid central office to receive bearer traffic from and transfer bearer traffic to any of the central offices in the subnetwork. As is clear to those skilled in the art, in order to transfer bearer traffic to any of the central offices, the hybrid central office must originate bearer traffic. It is abundantly clear that the virtual tandem switching system in accordance with Allen Jr. et al. is not adapted to originate bearer traffic.

The Office Action further alleges that the virtual tandem switching system of Allen Jr. et al. includes a trunk interface to the public switched telephone network. This is clearly not the case. The virtual tandem switching system is connected by trunking interfaces through the T-WIFs 28 to the respective end offices in the subnetwork. It does not support any other connections or any direct connections to the PSTN.

With the respect to the last paragraph of claim 1, it is clear that the originating end offices 20, 22 do not have a computing module with a signaling interface to the ATM backbone network. The CS-IWF 30 does have such an interface but it is not part of an end office computing module. Consequently, Allen Jr. et al. fail to teach or suggest the hybrid central office having a computing module with a signaling interface to the ATM backbone network.

For all of the above reasons, United States Patent No. 6,169,735 filed April 7, 1999 fails to teach or suggest the invention claimed in claim 1 and the rejection is traversed.

With respect to claim 2, Allen Jr. et al. fail to teach a structure that would permit calls to be routed by a hybrid end office between other end offices connected to the network without routing the call through the inter-working bearer

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traffic interface that connects the hybrid end office to the ATM backbone network. The rejection of claim 2 is thereby traversed.

With respect to claim 3, Allen Jr. et al. fail to teach or suggest a hybrid central office adapted to receive ISDN messages associated with inter-office calls and to modify the ISUP messages and forward them to a terminating central office. The rejection of claim 3 is thereby traversed.

Respecting claim 4, Allen Jr. et al. fail to teach or suggest a hybrid central office adapted to modify an ISUP message by replacing a CIC associated with an originating end office of the inter-office call to a CIC associated with a terminating end office of the inter-office call. As taught in column 15, lines 7-12 the CS-IWF 30 receives the terminating CIC from the terminating T-IWF B. Allen Jr. et al. therefore teach directly away from the invention claimed in claim 4 and the rejection is traversed.

Respecting claim 5, Allen Jr. et al. fail to teach or suggest a hybrid central office wherein the inter-working bearer traffic interface supports bridges across a switch fabric of the hybrid central office for calls that originate in the PSTN and terminate at one of the end offices in the subnetwork or originate at one of the central offices and terminate in the PSTN. No such bridges are taught or contemplated by Allen Jr. et al. because Allen Jr. et al. do not teach or suggest the hybrid central office described and claimed. The rejection of claim 5 is thereby traversed.

Respecting claim 6, Allen Jr. et al. fail to teach or suggest an inter-working bearer traffic interface adapted to generate an application instance for each of the bridges across the switch fabric of the hybrid central office, and the rejection is traversed.

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Regarding claim 7, Allen Jr. et al. fail to teach or suggest cached SVCs. In fact, Allen Jr. et al. teach directly away from cached SVCs and teaches either dynamically established SVC connections or permanent virtual paths (PVPs). The rejection of claim 7 is thereby traversed.

Respecting claim 8, Allen Jr. et al., for reasons set forth above with respect to claim 1, fails to teach or suggest a hybrid central office adapted to function as a virtual tandem for a subnetwork for controlling inter-office call routing for calls that originate or terminate in the subnetwork. The rejection of claim 8 is thereby traversed.

With respect to claim 9, Allen Jr. et al. fail to teach a hybrid end office having a computing module with a signaling interface to the ATM backbone and adapted to select inter-working bridges for calls originating in the PSTN and terminating in the subnetwork, or originating in the subnetwork and terminating in the PSTN. Furthermore, Allen Jr. et al. fail to teach a hybrid end office having a trunk connection to the PSTN to permit completion of calls that originate in the PSTN and terminate in the subnetwork, or originate in the subnetwork and terminate in the PSTN. The rejection of claim 9 is thereby traversed.

With respect to claim 10, Allen Jr. et al. fail to teach or suggest that all inter-office calls originated at the respective central offices, except for the one adapted to function as the virtual tandem are routed to the respective single large trunk group. The rejection of claim 10 is thereby traversed.

With regard to claim 11, Allen Jr. et al. fail to teach fabric control messages containing origination and termination addresses as well as connection mapping information to enable the interface to map a virtual circuit used to transfer a call through the ATM backbone to their respective originating and terminating trunk members in the respective single large trunk groups. Allen Jr. et al. teach

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directly away from claim 11 because Allen Jr. et al. teach that T-IWF B finds an idle DSO channel on its line interface and reserves it. T-IWF B determines the CIC for this DSO and sends the CIC to the CS-IWF 30. The rejection of claim 11 is thereby traversed.

With respect to claim 12, Applicant acknowledges that Allen Jr. et al. teach the use of switched virtual circuits. However, claim 12 depends from claim 11 which Allen Jr. et al. teach directly away from. The rejection of claim 12 is thereby traversed.

With respect to claim 13, it has already been established above that Allen Jr. et al. fail to teach or suggest cached SVCs. The rejection of claim 13 is thereby traversed.

Regarding claim 14, it has already been established that Allen Jr. et al. fail to teach or suggest cached CVs or the management of same. The rejection of claim 14 is thereby traversed.

With respect to claim 15, for reasons noted above in detail, Allen Jr. et al. fail to teach or suggest a trunk group interconnecting his ATM virtual tandem switching system and the PSTN, much less a hybrid central office that serves as a virtual tandem and supports a trunk group connected to the PSTN so that calls that originate from the subnetwork and terminate in the PSTN are routed through the trunk group connected to the PSTN. The rejection of claim 15 is thereby traversed.

With respect to claim 16, Allen Jr. et al. fail to teach or suggest a method in which a hybrid central office serves as a virtual tandem for the subnetwork and that an originating central office in the subnetwork formulates an IAM relating to the inter-office call, the IAM containing a destination point code of the hybrid central office that serves as the virtual tandem. The rejection of claim 16 is thereby traversed.

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With regard to claim 17, Allen Jr. et al. fail to teach or suggest a hybrid end office that coordinates calls across the ATM backbone between two other end offices. The only element in the network taught by Allen Jr. et al. capable of such associations is the CS-IWF 30, which is neither an end office nor supports subscriber lines or terminates trunks. The rejection of claim 17 is thereby traversed.

With respect to claim 18, it has been established above that Allen Jr. et al. neither teach nor suggest cached SVCs. The rejection of claim 18 is thereby traversed.

Regarding claim 19, it has been established in detail above that the virtual tandem switching system described by Allen Jr. et al. does not support the trunks connected to the PSTN. Consequently, Allen Jr. et al. teach directly away from an SVC enabled between an interface associated the originating central office and an interface associated with the virtual tandem for a call that terminates in the PSTN. The rejection of claim 19 is thereby traversed.

Regarding claim 20, it has been established above that Allen Jr. et al. neither teach nor suggest inter-working bridges between the terminating interface and a TDM peripheral associated with a trunk connecting the end office which serves as a virtual tandem to the PSTN or the managing of the inter-working bridge for a duration of a call. The rejection of claim 20 is thereby traversed.

Although it is clear for reasons set forth in detail above that Allen Jr. et al. fail to teach or suggest the claimed invention, the Examiner is again reminded that the above-identified United States patent has a filing date on its face that post dates the filing date of the instant application. Consequently, the patent, per se, is not prior art to the instant invention. Onus rest squarely with the Examiner to establish that the teachings of United States Patent No. 6,169,735 are fully and


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completely supported by the claimed priority date and that an equal disclosure is provided in Provisional Application No. 60/083,640.

However, even given an identical disclosure, for reasons set forth above Applicant respectfully submits that Allen Jr. et al. fail to teach or suggest the claimed invention. Consequently, all 20 claims pending in this application are deemed to be in a condition for immediate allowance. Favourable reconsideration and early issuance of a Notice of Allowance are therefore requested.

Respectfully submitted,
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Date: February 27, 2003

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